

where the variables, independently of one another, are as defined below:

P is hydrogen, C₁-C₁₅ alkyl, which may be monosubstituted or polysubstituted by methyl, fluorine, chlorine or bromine and in which non-adjacent CH₂-groups may be replaced by oxygen, sulfur, -CO-, -O-CO-, -CO-O- or -O-CO-O-, or a -Y⁸-A⁴-Y⁶-Z⁴ group, where the variables are as defined below,

Z¹ to Z⁴ are polymerizable groups,

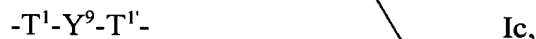
Y¹ to Y⁸ are each a single chemical bond, oxygen, sulfur, -O-CO-, -CO-O-, -O-CO-O-, -CO-NR-, -NR-CO-, -O-CO-NR-, NR-CO-O-, or -NR-CO-NR-,

Z¹-Y¹-, Z²-Y²-, Z³-Y⁵- and, if present, Z⁴-Y⁶- are selected from the group consisting of methacryloyloxy, acryloyloxy and vinyloxy,

R is hydrogen or C₁-C₄ alkyl,

A¹ to A⁴ are spacers having 1 to 30 carbon atoms, in which the carbon chain may be monosubstituted or polysubstituted by methyl, fluorine, chlorine or bromine and/or interrupted by ether oxygen, thioether sulfur or by non-adjacent imino or C₁-C₄ alkylimino groups,

M¹ is a mesogenic group of the formula Ic



and

M² is a mesogenic group of the formula Id



where the variables in the formulae Ic and Id, independently of one another, are as defined below:

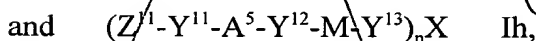
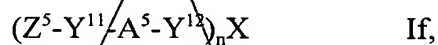
T^1 , $T^{1'}$ and T^2 are divalent saturated or unsaturated carbocyclic or heterocyclic radicals,

Y^9 and Y^{10} are bridging units as defined for Y^1 to Y^8 or $-CH_2-O-$, $-O-CH_2-$, $-CH=N-$, $-N=CH-$ or $-N=N-$,

r is a value of 0, 1, 2 or 3,

where the radicals T^2 and Y^{10} , in the case where r is not 0, may be identical or different, and

A2) at least one chiral compound selected from the group consisting



in which the variables Z^5 are polymerizable groups, Y^{11} to Y^{13} are bridging units, A^5 are spacers and M are mesogenic groups and which have the same general meaning as the variables Y^1 to Y^8 , A^1 to A^4 and M^1 and M^2 in the formulae Ia and Ib and for M^1 and M^2 in the formulae Ic and Id, n is 1, 2, 3, 4, 5 or 6, X is an n -valent chiral radical where the n groups bonded to the chiral radical X may be identical or different,

B) further additives selected from the group consisting of

b1) photoinitiators,

b2) reactive thinners and

b3) diluents, and

C) if desired, further additives selected from the group consisting of

c1) antifoams and deaerators,

c2) lubricants and flow-control agents,

c3) thermal curing or radiation-curing auxiliaries,

c4) substrate wetting auxiliaries,

c5) wetting and dispersion auxiliaries,

c6) hydrophobicizing agents,

c7) adhesion promoters and

c8) auxiliaries for improving the scratch resistance, and

D) if desired, further additives selected from the group consisting of

d1) dyes and

d2) pigments, and

e) if desired, further additives selected from the group consisting of light, heat and/or oxidation stabilizers.

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cont.
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20. (New) The liquid-crystalline composition as claimed in Claim 19 comprising component C) and, if desired, further additives selected from the group consisting of components D) and E).

30 21. (New) The liquid-crystalline composition as claimed in Claim 19, having a viscosity of from 0.5 to 10.0 Pa s at 20°C. 1000 units per liter

36 22. (New) A printing ink comprising said liquid-crystalline composition as claimed in any one of Claims 19 to 21.

³²
~~23.~~ (New) A process of printing or coating substrates utilizing a composition comprising said liquid-crystalline composition as claimed in any one of Claims ^{28 30}~~19~~ to ~~21~~.

³³
~~24.~~ (New) An electro-optical component comprising said liquid-crystalline composition as claimed in any one of Claims ^{28 30}~~19~~ to ~~21~~.

³⁴
~~25.~~ (New) A process of counterfeit-proof marking of articles utilizing a composition comprising said liquid-crystalline composition as claimed in any one of Claims ^{28 30}~~19~~ to ~~21~~.

³⁵
~~26.~~ (New) A process for producing films or coatings which selectively reflect light in the wavelength range of from 250 to 1300 nm utilizing a composition comprising said liquid-crystalline composition as claimed in any one of Claims ^{28 30}~~19~~ to ~~21~~.

³⁶
~~27.~~ (New) A polymer or polymerized film obtained by polymerizing said liquid-crystalline composition as claimed in any one of Claims ^{28 30}~~19~~ to ~~21~~.

³⁷
~~28.~~ (New) An optical filter, polarizer, decoration, counterfeiting-proof marking or reflection medium for the selective reflection of radiation in the wavelength range of from 250 to 1300 nm comprising said polymer or polymerized film as claimed in Claim ³⁶~~27~~.

³⁸
~~29.~~ (New) A process for printing or coating a substrate, which comprises:

- ²⁸
- i) applying a liquid-crystalline composition as claimed in any one of Claims ²⁸~~19~~ to 21 to said substrate, and, if appropriate, aligning the liquid-crystalline composition on said substrate, and
 - ii) if desired, applying at least one further non-liquid-crystalline print or at least one further non-liquid-crystalline coating,
- or carrying out steps i) and ii) in the reverse sequence, and
- iii) if desired, applying at least one absorption layer and/or protective layer and/or thermally activatable adhesive layer, and

- iv) curing the prints and/or coatings produced in step i) and, if carried out, step ii) and/or step iii), where the curing can take place either directly after application of each individual print or each individual coating in step i) and, if carried out, step ii) and/or step iii) or simultaneously.

⁴⁰
~~30.~~ (New) The process as claimed in Claim ³⁸~~29~~, wherein said substrate is at least partially transparent in the wavelength range from 250 to 1300 nm.

⁴¹
~~31.~~ (New) The process as claimed in Claim ³⁸~~29~~, in which said substrate may be precoated in one or more colors.

⁴²
~~32.~~ (New) A process for making counterfeiting-proof markings comprising the process as claimed in Claim ³⁸~~29~~, wherein said liquid-crystalline composition in step i) is a colored and photochemically polymerizable liquid-crystalline composition and step i) comprises polymerizing said liquid-crystalline composition by UV-light; wherein step ii) comprises further applying prints or coatings containing IR- or UV-absorbent or fluorescent dyes or pigments, and wherein step iii) comprises applying a final absorption layer.

⁴³
~~33.~~ (New) The process as claimed in Claim ³⁸~~29~~ wherein in steps i) and, if used step ii) prints and coatings are applied alternately or in any sequence and number.

⁴⁴
~~34.~~ (New) A substrate to which said liquid-crystalline composition as claimed in Claims ²⁸~~19~~ to ³⁰~~21~~ or said polymer or polymerized film as claimed in Claim ³⁶~~27~~ has been applied.

⁴⁵
~~35.~~ (New) A substrate which has been printed or coated by the process as claimed in Claim ³⁸~~29~~.

⁴⁶
~~36.~~ (New) A substrate which has been printed or coated by the process as claimed in any one of Claims ⁴⁰~~30~~ to ⁴²~~32~~.